Oppenheimer Wolff & Donnelly LLP Telephone: 650-320-4000 Title: Method and Apparatus For Audio Loudness And Dynamics Matching Serial No.: 10/043,591; Filed 1/9/02 Atty Dkt. No.: 21521-300101 Sheet: 1 of 12 AUDIO OUT AUDIO IN AUDIO SUBSYSTEM AUDIO AND/OR DATA STORAGE UNITS 22 NETWORK CONNECTION 20 FIG. 1 -26 INPUT/OUTPUT DEVICES DEVICE CONTROLLERS 18 MEMORY 16 DISPLAY 4 CPU

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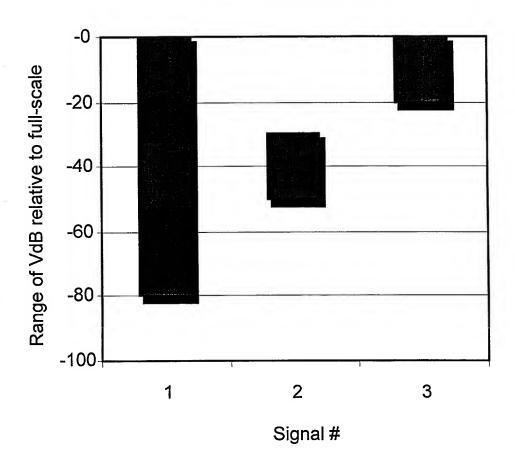


FIG. 2

Title: Method and Apparatus For Audio Loudness And Dynamics Matching Serial No.: 10/043,591; Filed 1/9/02 Atty Dkt. No.: 21521-300101 Sheet: 3 of 12 30 Receive audio track 32 Apply any desired preprocessing 34 Obtain loudness values for frames 36 Apply weighting factor to loudness values 38 Aggregate weighted loudness values to obtain overall value Compared overall loudness value with desired loudnes value 42 Apply gain to audio track based on

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FIG. 3

comparison

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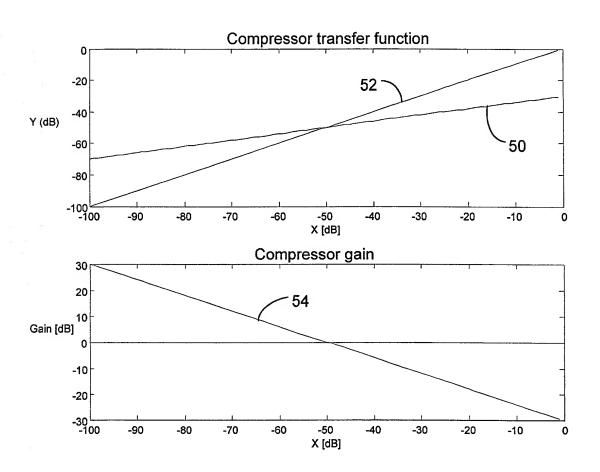


FIG. 4

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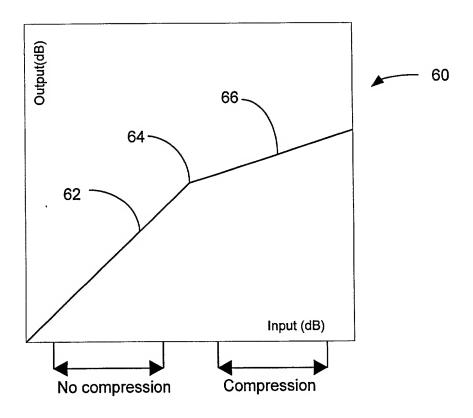


FIG. 5

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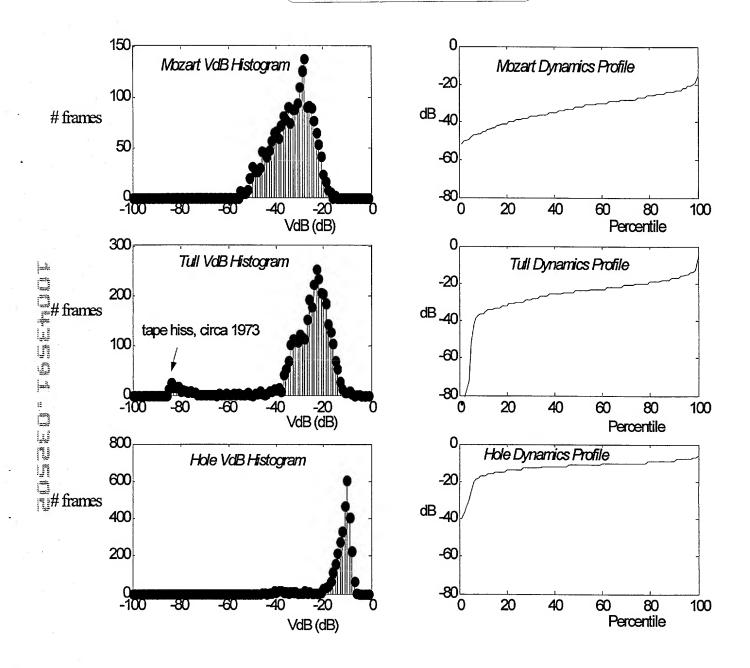


FIG. 6

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Title: Method and Apparatus For Audio Loudness And Dynamics Matching Serial No.: 10/043,591; Filed 1/9/02 Atty Dkt. No.: 21521-300101
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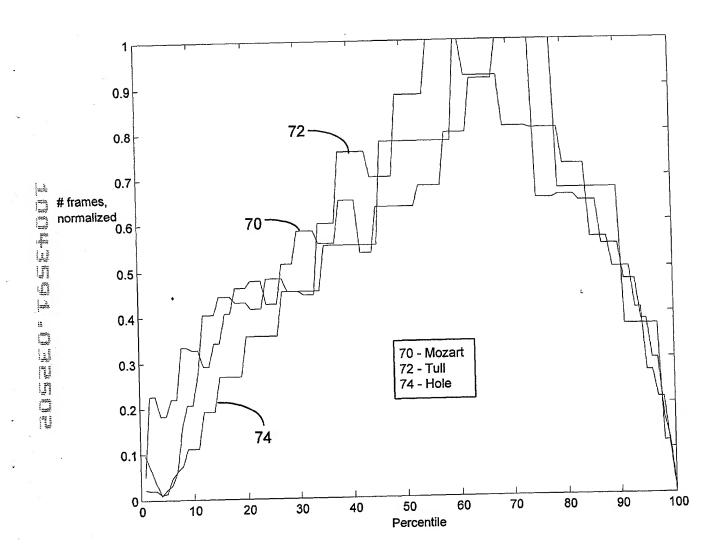


FIG. 7

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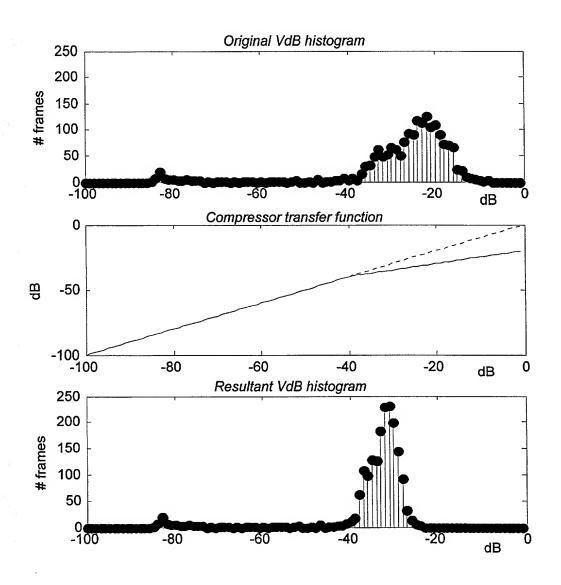


FIG. 8

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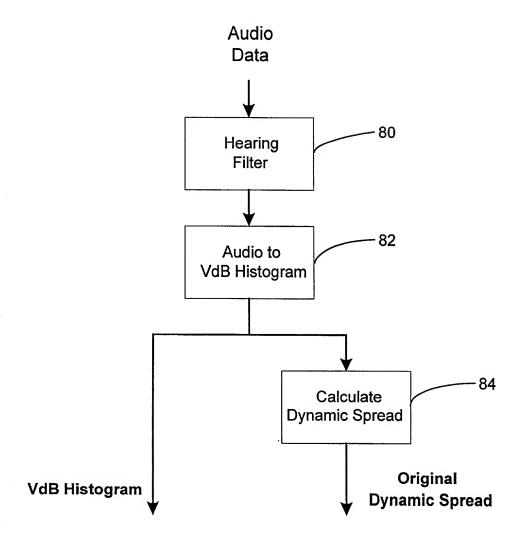


FIG. 9

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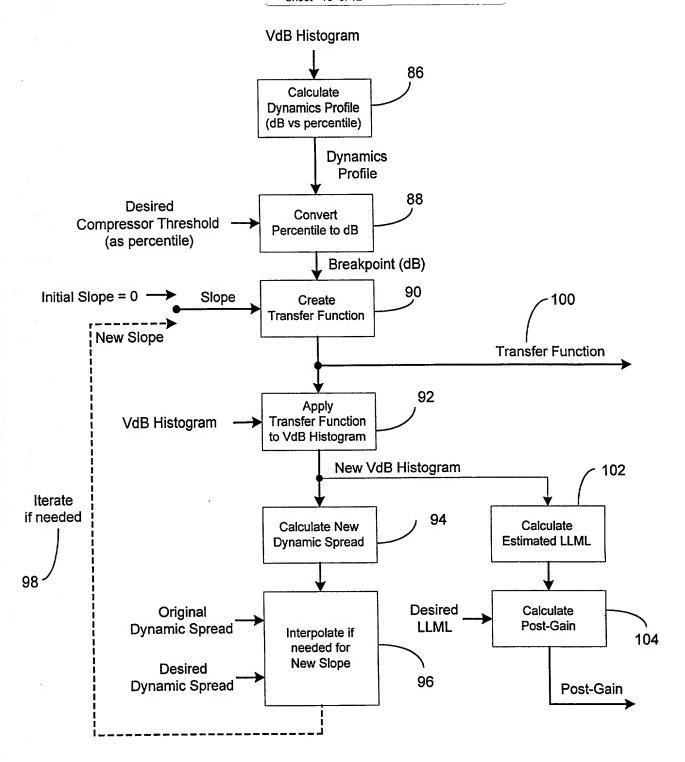
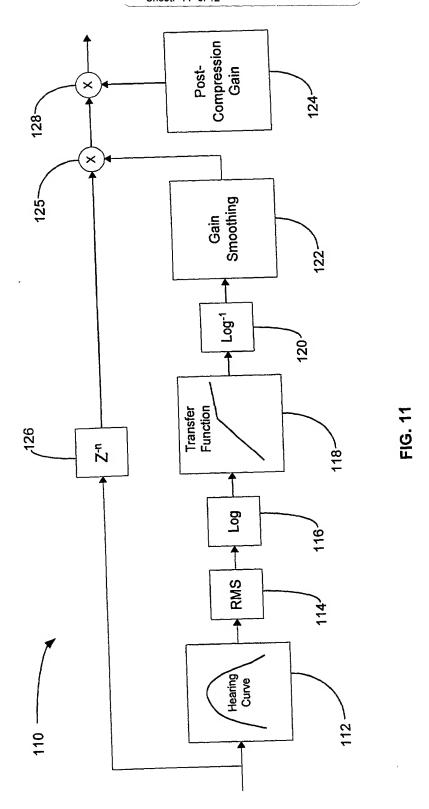


FIG. 10

Oppenheimer Wolff & Donnelly LLP Telephone: 650-320-4000
Title: Method and Apparatus For Audio Loudness And Dynamics Matching Serial No.: 10/043,591; Filed 1/9/02
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Loudness And Dynamics Matching Serial No.: 10/043,591; Filed 1/9/02 Atty Dkt. No.: 21521-300101 Sheet: 12 of 12

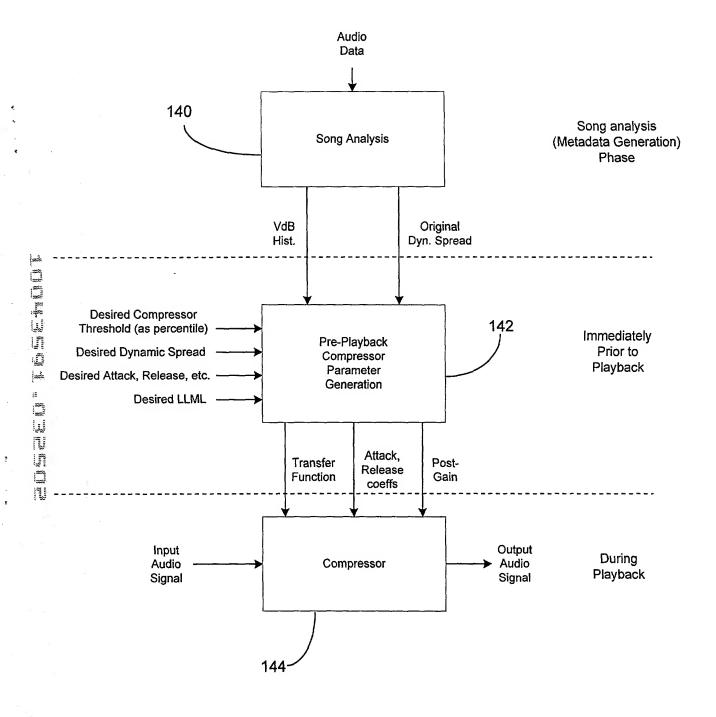


FIG. 12